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Alaska Coastal Management Program Consistency Analysis

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Submitted to:

State of Alaska
Department of Natural Resources
Office of Project Management and Permitting

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Alaska Coastal Standards

Introduction

This Alaska Coastal Management Program (ACMP) consistency analysis for the Pioneer Natural Resources, Alaska Inc. (Pioneer) Oooguruk Development Project (Oooguruk Project) describes proposed activities and discusses compliance with each standard of the ACMP. Standards of the ACMP include state standards found in regulation (6 AAC 80.040 through 6 AAC 80.150) and the enforceable policies of the North Slope Borough Coastal Management Program (NSBCMP) (Section 2.4.3, Standards For Development). This analysis follows the discussion of the individual state standards.

This analysis is supported by the Oooguruk Development Project permit application package including the Oooguruk Unit Plan of Operations, Environmental Evaluation Document (EED), and ongoing engineering and technical studies. A Draft of the Plan of Operations was submitted to regulatory stakeholders on June 1, 2005. Pioneer's distribution of the Oooguruk Project application package formally initiates federal, State and NSB application completeness reviews for facility construction. Pioneer anticipates the Alaska Department of Natural Resources (ADNR), Office of Project Management (OPMP) coordinated ACMP Consistency Review to satisfy Federal Coastal Zone Management Act (1972) requirements in support of the U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 and Rivers and Harbors Act, Section 10 federal actions.

Although the Oooguruk Development Project EED was drafted to support the USACE Section 404 permit application, it provides valuable information that supports this ACMP Consistency Analysis. The EED is presented in National Environmental Policy Act (NEPA) format introducing the proposed action, project component alternatives, a description of the affected environment, potential environmental consequences, and cumulative impacts of the proposed action. Measures designed to avoid, minimize, or mitigate potential project impacts are also presented.

Pioneer's strategy to avoid, minimize, and mitigate potential physical, biological, and human resource impacts is through the application of sound engineering, design, and North Slope construction practices, implementing standard operating procedures and coordinated activity schedules.

Scope of Analysis

The Oooguruk Project will be conducted under the terms of the Oooguruk Unit Expansion Agreement. The proposed activities will be exclusively on State of Alaska lease acreage, subject to Beaufort Sea Areawide 2004 Competitive Oil and Gas Lease Sale Mitigation Measures and Lessee Advisories.

Pioneer is proposing to construct an approximately 6-acre offshore gravel pad for use as a production drillsite with dock facilities, offshore and onshore flowlines, and an onshore production tie-in pad immediately adjacent to existing Kuparuk River Unit (KRU) drillsite DS-3H. The onshore pad working surface would be approximately 2.2 acres. The offshore drillsite would be located in 4 to 6 ft of water (to be confirmed during the open water bathymetry survey in summer 2005) in an area of annually bottomfast ice with a freeboard

of approximately 13 ft above mean lower low water (MLLW). The offshore drillsite would be approximately 2.5 miles north of the mouth of the Colville River, 2.1 miles northwest of the KRU boundary, and 8.9 miles west of Oliktok Point. The trench-buried offshore flowline would transfer multiphase produced fluids 5.7 miles to shore, then transition to aboveground flowline on Vertical Support Members (VSMs) for 2.4 miles to the tie-in pad adjacent to DS-3H. The proposed offshore drillsite includes 48 to 60 wells in wellhead modules. About half the wells would be producer wells and the other half injector wells. One well would be a Class I/II Underground Injection Control (UIC) disposal well.

This consistency analysis provides a discussion of how project activities do or do not conform to the ACMP Coastal Standards of 6 AAC 80 and the Enforceable Policies of the NSBCMP 2.4. The language of each Standard or Enforceable Policy, provided in italics, is followed by a discussion. Pioneer believes the conditions of the Unit Agreement, the Lease Mitigation Measures, and measures voluntarily incorporated in the Plan of Operations make the project consistent with the ACMP and NSBCMP.

6 AAC 80.040 COASTAL DEVELOPMENT STANDARD

(a) In planning for and approving development in coastal areas, districts and state agencies shall give in the following order, priority to:

(1) water-dependent uses and activities,
(2) water-related uses and activities, and
(3) uses and activities which are neither water-dependent nor water-related for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.

(b) The placement of structures and the discharge of dredged or fill material into coastal water must, at a minimum, comply with the standards contained in Parts 320-323, Title 33, Code of Federal Regulations (Vol. 42 of the Federal Register, pp. 37133 - 47 (July 19, 1977). (Eff. 7/18/78, Register 67; am 8/18/79, Register 71)

The intent of the 6 AAC 80.040(a) water dependency standard is to ensure priority of water-dependent uses and activities and ensure onshore developments and activities that can be placed inland do not displace activities dependent on shoreline locations. 6 AAC 80.040(b) requires placement of structures and discharges of dredged material into coastal waters comply with the USACE regulations 33 CFR Parts 320-323.

Part (a) of this standard gives priority to uses and activities in coastal areas that are water-dependent. The Oooguruk Project is located offshore in the Beaufort Sea. The location was selected to optimize recovery hydrocarbon resources from the Oooguruk Unit. The drillsite is a water-dependent activity that "can be carried out only on, in or adjacent to water areas because the use requires access to the water body" [6 AAC 80.900(17)]. Furthermore, Alaska Statute 46.40.020 (4) requires the coastal management program give a higher priority to management of coastal land and water uses that are "economically or physically dependent on a coastal location."

Part (b) of the Coastal Development Standard requires that the placement of structures and discharge of dredged material in coastal waters comply with regulations of the USACE

addressing activities occurring in waters of the United States (33 CFR Sec. 320-323). Pioneer has submitted a permit application for an individual Section 404 Clean Water Act (33 CFR 323 - Dredge and Fill) and a Section 10 Rivers and Harbors Act (33 CFR Section 322 - Structures in Navigable Waters) that proposes how the Oooguruk Project complies with USACE regulations.

6 AAC 80.050. GEOPHYSICAL HAZARD AREAS

(a) Districts and state agencies shall identify known geophysical hazard areas and areas of high development potential in which there is a substantial possibility that geophysical hazards may occur.

(b) Development in areas identified under (a) of this section may not be approved by the appropriate state or local authority until siting, design, and construction measures for minimizing property damage and protecting against loss of life have been provided. (Effective 7/18/78, Register 67)

The NSB Coastal District and state agencies have identified known geophysical hazard areas in the Beaufort Sea. Geophysical hazards common to the Arctic environment, such as ice override, ice gouging, strudel scour, and coastal erosion have been evaluated as part of the engineering and design effort for the project. Summers studies including a bathymetry survey, hydrology, coastal erosion, and strudel scour observations as well as traditional knowledge surveys will be conducted to confirm the engineering design criteria used for the Oooguruk Project. The Oooguruk Project is specifically designed and will be constructed to meet applicable geophysical hazard design criteria.

Another possible geophysical hazard involves hydrogen sulfide. This compound could be encountered while drilling. Precautions employed during the drilling program regulated by the Alaska Oil And Gas Conservation Commission (AOGCC), will include standard industry practice that will mitigate concerns associated with hydrogen sulfide.

6 AAC 80.060. RECREATION.

(a) Districts shall designate areas for recreational use. Criteria for designation of areas of recreational use are:

(1) the area receives significant use by persons engaging in recreational pursuits or is a major tourist destination; or

(2) the area has potential for high quality recreational use because of physical, biological, or cultural features.

(b) Districts and state agencies shall give high priority to maintaining and, where appropriate, increasing public access to coastal water. (Eff. 7/18/78, Register 67; am 8/18/79, Register 71)

The NSB Coastal District (NSBCD) has designated areas for recreation. No designated recreation areas are within the project area. Project activities are not expected to adversely affect recreation opportunities in the region.

As discussed later in this document, NSBCMP Enforceable Policy 2.4.6(a) also addresses recreation.

6 AAC 80.070. ENERGY FACILITIES

(a) Sites suitable for the development of major energy facilities must be identified by districts and the state in cooperation with districts.

(b) The siting and approval of major energy facilities by districts and state agencies must be based, to the extent feasible and prudent, on the following standards:

(1) site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements;

(2) site facilities so as to be compatible with existing and subsequent adjacent uses and projected community needs;

(3) consolidate facilities;

(4) consider the concurrent use of facilities for public or economic reasons;

(5) cooperate with landowners, developers, and federal agencies in the development of facilities;

(6) select sites with sufficient acreage to allow for reasonable expansion of facilities;

(7) site facilities where existing infrastructure, including roads, docks, and airstrips, is capable of satisfying industrial requirements;

(8) select harbors and shipping routes with least exposure to reefs, shoals, drift ice, and other obstructions;

(9) encourage the use of vessel traffic control and collision avoidance systems;

(10) select sites where development will require minimal site clearing, dredging and construction in productive habitats;

(11) site facilities so as to minimize the probability, along shipping routes, of spills or other forms of contamination, which would affect fishing grounds, spawning grounds, and other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds and waterfowl nesting areas;

(12) site facilities so that design and construction of those facilities and support infrastructures in coastal areas of Alaska will allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns and so that areas of particular scenic, recreational, environmental, or cultural value will be protected;

(13) site facilities in areas of least biological productivity, diversity, and vulnerability and where effluents and spills can be controlled or contained;

(14) site facilities where winds and air currents disperse airborne emissions, which cannot be captured before escape into the atmosphere;

(15) select sites in areas which are designated for industrial purposes and where industrial traffic is minimized through population centers; and

(16) select sites where vessel movements will not result in overcrowded harbors or interfere with fishing operations and equipment.

(c) Districts shall consider that the uses authorized by the issuance of state and federal leases for mineral and petroleum resource extraction are uses of state concern. (Eff. 7/18/78, Register 67; am 8/18/79, Register 71)

As an introduction to the analysis related to the Energy Facilities standard, it should be noted that the Oooguruk Development Project Plan of Operations and Beaufort Sea Areawide 2004 Competitive Oil and Gas Lease Sale Mitigation Measures and Lessee Advisories include stipulations related to this standard.

Part (a) of this standard requires identification of suitable sites for development of major energy facilities. Pioneer has reviewed a variety of solutions to efficiently and cost effectively develop the Oooguruk Oil and Gas Unit. The proposed action, as presented in the Project Description and permit applications, is a practical solution that maximizes recovery of the delineated hydrocarbon resource. The proximity to KRU processing and transportation infrastructure and the project's interdependency on these facilities will extend the useful life of North Slope infrastructure, including the Trans Alaska Pipeline System, while minimizing footprints and potential impacts by using existing facilities and reducing the need for new power, offshore, processing, and transportation infrastructure.

Part (b) of this standard requires siting of energy facilities according to 16 criteria to the extent feasible and prudent. "Feasible and prudent" is defined in 6 AAC 80.900(20) to mean "consistent with sound engineering practice and not causing environmental, social, or economic problems that outweigh the public benefit." This requirement is met in two parts: 1) Pioneer's technical team includes a suite of qualified engineers and technical experts that are employing sound engineering practices to design the project for maximum facility integrity and reliability. The federal, State and NSB regulatory and technical staff will review and approve the proposed action with stipulations that insure compliance with all applicable laws and regulations; and 2) the primary need for the proposed action is to continue to develop energy supplies for the domestic market, which demonstrates there is a significant public need for the proposed use and activities.

There is a significant public need for oil and gas development projects including this project. The Alaska Department of Law has clarified that public need, in the context of the ACMP regulations, is a need of the general public as opposed to a private or individual need. The department notes that public need is not a demand; rather it is a necessity that is requisite, desirable or useful. Significant public need exists for domestic oil and gas development, and such development cannot occur without development projects such as the Pioneer Oooguruk Project. Both Alaska and the United States require reliable petroleum development and production to sustain economic growth and the creation of jobs. An

objective of the ACMP is "the recognition of the need for a continuing supply of energy to meet the requirements of the state and contribution of a share of the state's resources to meet national energy needs." Alaska statutes define a use of state concern as including "activities pursuant to a state oil and gas lease . . . dependent on a coastal location and which, because of their magnitude or the magnitude of their effect on the economy of the state or the surrounding area, are reasonably likely to present issues of more than local significance" (AS 46.40.210(6)).

The oil and gas industry contributes to the economy of the NSB through taxes collected on infrastructure, through subcontracts with local corporations, and through employment of NSB residents. This contribution represents a significant part of the regional economy in this area.

In addition to the contribution to the regional economy, the project will contribute to the overall state economy because much of the state's economic base is generated by revenues from oil and gas exploration and development. Considering projections for Alaska oil and gas indicate both production and associated state revenues are expected to decline over the next several decades, new exploration and development will be necessary to maintain Alaska's economy. New areas will need to be developed to minimize the effect of declining onshore production of the North Slope fields.

The project will meet the requirements of each component of 6 AAC 80.070 Part (b) of the standard as described below.

1) The use of wellhead modules on an artificial gravel offshore drillsite in eastern Harrison Bay minimizes adverse environmental effects because they are weather tight and module skids serve as large containment tanks in the event of a produced fluid spill. Gravel drilling platforms have demonstrated ability to withstand arctic sea and ice condition design criteria. An Oil Discharge Prevention Contingency Plan (ODPCP) is being prepared specifically for the Oooguruk Unit development and production project. It will demonstrate Pioneer's commitment to spill prevention and their ability to respond to accidental releases and discharges.

The proposed schedule of activities avoids and minimizes social effects because the major activity, construction, will be conducted during the winter season when little if any community activities exist in the project area. The marine barging equipment transport will be conducted during the summer open water season with a schedule purposely-avoiding interference with the fall bowhead whaling season and other regional subsistence activities.

Marine mammal issues will be coordinated with the Nuiqsut Whalers Association, Alaska Eskimo Whaling Commission (AEWC), and/or the National Marine Fisheries Service. Polar Bears and seals, regulated by the U.S. Fish and Wildlife Service, are addressed in the Bear and Pacific Walrus Avoidance and Human Interaction/Encounter Plan for the project.

2) The proposed Oooguruk Project facilities are compatible with adjacent uses because the project will not significantly affect winter subsistence activities, community needs, other uses, and is compatible with regional oil and gas development.

3) The wellhead module layout allows for minimal footprint of the offshore drillsite. The produced fluid flowline ultimately ties into existing KRU infrastructure at DS-3H, thus requiring a minimal footprint for the onshore facility. Crew housing, summer marine barging efforts as well as light-vessel traffic for crew changes and some resupply will be staged out of Oliktok Dock area, thus using existing infrastructure for staging, loading, fueling, and other logistic support. Helicopters and hovercrafts may support crew changes and minor resupply activities during early and late season winter operations, especially during unstable ice periods. Helicopter refueling facilities are not required for the Oooguruk Project; existing onshore facilities would be used.

4) This project will allow concurrent use of areas for subsistence and other uses.

5) During the development of the Oooguruk Project and throughout the review process, Pioneer is committed to cooperating with Federal, State and NSB agencies, regional stakeholders as well as other operators in the region.

6) Facilities at the offshore drillsite are designed to initially accommodate 48 wells in a wellhead module configuration. The design includes provision for increasing the well number to 60. Expansion of onshore facilities beyond the gravel pad next to DS-3H is not anticipated for this project.

7) There are no existing facilities of any kind in the drilling area. However, for construction of the offshore drillsite, existing all-weather roads may be used as well as support facilities at Oliktok Point. Mine Site E will be expanded and be the primary material source for the project, thus avoiding the development of mine site and support infrastructure.

8) Marine barging and light-vessel access to the site would be on a route from Oliktok Dock to docking facilities at the offshore drillsite. Barging and light-vessel traffic would not be used (except for possible use of hovercraft during breakup) during periods of drifting ice. The route from Oliktok Dock to the offshore drillsite follows the coast to the vicinity of the flowline route then advance straight to the drillsite. Shallow draft river-class tugs and partially loaded 200-ft barges would be used for equipment and module transport during construction of facilities at the offshore drillsite. The summer 2005 bathymetric survey will identify any need for deviations along the route.

9) The mobilization of equipment to the offshore drillsite would require one river-class tug and 200-ft barge. This area experiences relatively little vessel traffic.

10) Construction of the offshore drillsite and trench-buried subsea flowline and onshore flowline transition and aboveground flowline would occur during winter construction seasons. The offshore portions would be on bottomfast ice, thus avoiding impacts from disturbance of the sea bed in open water seasons. Gravel would be placed for the offshore drillsite through a hole in the bottomfast ice. No dredging in open water or site clearing is proposed for this project.

11) The volume of vessel and barge traffic in the project area is low. The offshore drillsite and flowline construction are scheduled winter season activities that avoid broken ice and open water seasons and minimize wetland and coastal transition zone impacts. The location

of the offshore drillsite and offshore flowline is in the area of annually bottomfast ice that does not provide fish over-wintering habitat. Seals and bears are typically closer to the fringe of the ice pack, though they may visit the project area.

12) Project was designed and sited with activities scheduled to avoid interference with the movement and free passage of fish, bowhead whales (project area too shallow), and wildlife in this area. The offshore flowline would be buried in a sub sea trench through the shoreline transition, construction of the offshore drillsite would take place in the winter on bottomfast ice and the onshore flowline segment will be installed in winter on aboveground VSMs to allow free passage of caribou and other terrestrial animals. No cultural resource sites are anticipated to be impacted by the project.

13) Facilities would be sited and the operations scheduled so a possible spill can be controlled, contained and cleaned up before spring break-up. The review and subsequent approval of the ODPCP by the Alaska Department of Environmental Conservation (ADEC) will demonstrate that adequate resources and equipment are available to respond to a spill. Pioneer is a member of Alaska Clean Seas (ACS) spill response cooperative and spill response resources will be available during construction, development drilling, and operations.

14) Crude production processing would not occur on the offshore drill site and proposed emission sources would be minor during operation. The stationary sources may be categorized as small fuel-burning equipment, an incinerator, and some infrequent venting of hydrocarbons as an emergency or during maintenance. There will be some mobile machinery emissions from drilling activity which will continue during facility operation. The only sources included in the onshore activities during facility operation will be emergency power generating engines and an emergency smokeless flare. Although gas is anticipated in the produced fluids stream, it would be sent through the flowline to DS-3H and then to the KRU CPF-3 facility. No production gas flaring would occur at the offshore drill site. The proposed project should be defined as a minor source (less than 100 tons per year of all criteria pollutants) and would not require a Prevention of Significant Deterioration (PSD) permit. During construction of the island, the on-shore equipment and the pipeline between the two, there will be heavy construction equipment, light plants, and other construction equipment in use with typical diesel tailpipe emissions. Construction and its associated impacts will be a short-term activity.

Processing facilities are not proposed offshore or onshore as part of the project, thus minimizing the sources of air emissions and increased infrastructure. Because the emissions will be minor, the air impacts from both the island and onshore facilities will also be small and are not expected to impact ambient air quality standards.

15) The drilling will occur in State of Alaska waters in east Harrison Bay of the Beaufort Sea. No population areas are located in the vicinity so industrial traffic will not be directed through population areas.

16) Regional vessel traffic is seasonal and minimal in the Oooguruk Project area. Operations will use a river-class shallow draft tugboat to tow a 200-ft barge to transport wellhead modules, equipment, and supplies from Oliktok Dock to the offshore drillsite.

Part (c) of this standard recognizes that oil and gas development is a use of state concern.

6 AAC 80.080. TRANSPORTATION AND UTILITIES

(a) Transportation and utility routes and facilities in the coastal area must be sited, designed, and constructed so as to be compatible with district programs.

(b) Transportation and utility routes and facilities must be sited inland from beaches and shorelines unless the route or facility is water-dependent or no feasible and prudent inland alternative exists to meet the public need for the route or facility. (Eff. 7/18/78, Register 67; am 8/18/79, Register 71)

Part (a) of this standard requires the siting and construction of transportation and utility routes to be compatible with district programs. No new transportation and utility routes are necessary to support this development project, except for the extension of flowlines and utilities from DS-3H to the offshore drillsite. The NSB Master Plan will be updated to include the Oooguruk Project and insure compliance with the NSBCMP. Compliance with Beaufort Sea Areawide 2004 Competitive Oil and Gas Lease Sale Mitigation Measures and Lessee Advisories and implementation of accepted North Slope construction practices assures minimal effects will occur to habitats. See additional discussion under the Habitat standard for more information. Also, the following NSB Enforceable Policies address this issue and are discussed later in this document: 2.4.4(a), 2.4.4(i), 2.4.5.2(f), 2.4.6(b) and 2.4.6(d).

Part (b) of the state transportation standard requires siting of routes inland from beaches and shorelines unless the route or facility is water-dependent or no feasible and prudent inland alternative exists. The offshore drillsite is a water-dependent facility as discussed in 6 AAC 80.040 (a) Coastal Development Standard discussion. No feasible or prudent alternative exists to perform the proposed drilling program from an inland setting. The flowline bundle needs to transition the shoreline to connect to KRU DS-3H maximizing the use of existing facilities and minimizing the need for new infrastructure.

6 AAC 80.090. FISH AND SEAFOOD PROCESSING

Districts shall identify and may designate areas of the coast suitable for the location or development of facilities related to commercial fishing and seafood processing. (Eff. 7/18/78, Register 67)

There are no commercial fisheries in the immediate project area. The offshore portion of the Oooguruk Project is located in shallow water seaward of the Colville River Delta. Commercial and subsistence fisheries for the Arctic Cisco, Least Cisco, and lesser numbers of other species, including broad whitefish, occur in or near the Colville River Delta. Commercial catches by the Helmericks family (located on Anachlik Island) averaged nearly 34,000 ciscoes between 1985 and 1996 and fall non-commercial catches by Nuiqsut residents were of similar magnitude.

6 AAC 80.100. TIMBER HARVEST AND PROCESSING

AS 41.17, Forest Resources and Practices, and the regulations and procedures adopted under that chapter with respect to the harvest and processing of timber, are incorporated into the Alaska coastal

management program and constitute the components of the coastal management program with respect to those purposes. (Eff. 7/18/78, Register 67; am 8/18/79, Register 71; am 3/30/84, Register 89)

The shallow offshore and onshore Arctic Coastal Plain settings are devoid of timber resources. This standard does not apply to the proposed action.

6 AAC 80.110. MINING AND MINERAL PROCESSING

(a) Mining and mineral processing in the coastal area must be regulated, designed, and conducted so as to be compatible with the standards contained in this chapter, adjacent uses and activities, statewide and national needs, and district programs.

(b) Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits, when there is no feasible and prudent alternative to coastal extraction which will meet the public need for the sand or gravel. (Eff. 7/18/78, Register 67; am 8/18/79, Register 71)

Gravel mining and processing is necessary for this development project. Fill material for the project will be extracted from an approved expansion within the Milne Point Unit (MPU) Mine Site E. A Material Sales Agreement and rehabilitation plan approval from the ADNR Division of Mining, Land, and Water (DMLW), and authorization from the USACE for wetlands impacts will foster cooperation with permitted operations within the Mine Site.

6 AAC 80.120. SUBSISTENCE

(a) Districts and state agencies shall recognize and assure opportunities for subsistence usage of coastal areas and resources.

(b) Districts shall identify areas in which subsistence is the dominant use of coastal resources.

(c) Districts may, after consultation with appropriate state agencies, Native corporations, and any other persons or groups, designate areas identified under (b) of this section as subsistence zones in which subsistence uses and activities have priority over all nonsubsistence uses and activities.

(d) Before a potentially conflicting use or activity may be authorized within areas designated under (c) of this section, a study of the possible adverse impacts of the proposed potentially conflicting use or activity upon subsistence usage must be conducted and appropriate safeguards to assure subsistence usage must be provided.

(e) Districts sharing migratory fish and game resources must submit compatible plans for habitat management. (Eff. 7/18/78, Register 67)

Subsistence uses and resources protection were addressed in planning and design of the Oooguruk Project. A small drillsite designed for the shallow waters of east Harrison Bay and the planned operations will minimize effects on subsistence resources and subsistence users in the vicinity of the project area. The project is not expected to restrict caribou or other wildlife movement parallel to the shoreline and is elevated on VSMs to provide subsistence users' unimpeded to access wildlife. Whaling issues will be coordinated with Nuiqsut Whaling Captains Association and the AEWC. Project activities will be

coordinated with the Inupiat Community of the Arctic Slope (ICAS), Kuukpik Subsistence Oversight Panel (KSOP), The NSB Planning Commission and Wildlife Department to avoid impacts to subsistence resources and activities.

Pioneer recognizes the importance of subsistence activities to the residents of the Nuiqsut and the NSB. The most important subsistence resource that is harvested seasonally on the North Slope is the bowhead whale. Nuiqsut whalers may pass through the project area enroute to Cross Island hunting camps in the fall. Planned marine traffic is not anticipated to affect subsistence hunting activities, including travel to and from hunting areas. The preparation of the Plan of Operations and EED included consideration of possible affects the project may have on subsistence resources and uses. The most significant affect the project could have on subsistence would be related to an oil spill. Pioneer is committed to facility integrity and the construction, development drilling, and production operations will be supported by an approved ODPCP that demonstrates Pioneers' commitment to prevent and minimize the possibility of an uncontrolled release, and their ability respond promptly to contain and cleanup spills.

Part (a) of this standard will be met through the NSB and state agency participation in the ACMP Consistency review process. Part (b) of this standard requires districts to identify areas where subsistence is the dominant use of coastal resources, and the draft NSBCMP Coastal Atlas Map 27 identifies the Nuiqsut Subsistence Use Area that includes the Oooguruk area. Part (c) describes designation of subsistence zones as priority use areas. The draft Coastal Atlas has not received final state approval at this time, therefore it is unknown if this will become a priority subsistence zone. Part (d) is being addressed through coordination with the Nuiqsut Whaling Captains Association and the AEWC. Part (e) of the Subsistence standard requires districts to develop compatible plans for management of shared species, and does not apply to Pioneer proposed action.

6 AAC 80.130. HABITATS.

(a) Habitats in the coastal area which are subject to the Alaska Coastal Management Program include:

(1) offshore areas;
(2) estuaries;
(3) wetlands and tideflats;
(4) rocky islands and seacliffs;
(5) barrier islands and lagoons;
(6) exposed high energy coasts;
(7) rivers, streams, and lakes; and
(8) important upland habitat.

(b) The habitats contained in (a) of this section must be managed so as to maintain or enhance the biological, physical, and chemical characteristics of the habitat which contribute to its capacity to support living resources,

(c) In addition to the standard contained in (b) of this section, the following standards apply to the management of the following habitats:

(1) offshore areas must be managed as a fisheries conservation zone so as to maintain or enhance the state's sport, commercial, and subsistence fishery;

(2) estuaries must be managed so as to assure adequate water flow, natural circulation patterns, nutrients, and oxygen levels, and avoid the discharge of toxic wastes, silt, and destruction of productive habitat;

(3) wetlands and tide flats must be managed so as to assure adequate water flow, nutrients, and oxygen levels and avoid adverse effects on natural drainage patterns, the destruction of important habitat, and the discharge of toxic substances;

(4) rocky islands and sea cliffs must be managed so as to avoid the harassment of wildlife, destruction of important habitat, and the introduction of competing or destructive species and predators;

(5) barrier islands and lagoons must be managed so as to maintain adequate flows of sediments, detritus, and water, avoid the alteration or redirection of wave energy which would lead to the filling in of lagoons or the erosion of barrier islands, and discourage activities which would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;

(6) high energy coasts must be managed by assuring the adequate mix and transport of sediments and nutrients and avoiding redirection of transport processes and wave energy; and

(7) rivers, streams, and lakes must be managed to protect natural vegetation, water quality, important fish or wildlife habitat and natural water flow.

(d) Uses and activities in the coastal area which will not conform to the standards contained in (b) and (c) of this section may be allowed by the district or appropriate state agency if the following are established:

(1) there is a significant public need for the proposed use or activity;

(2) there is no feasible prudent alternative to meet the public need for the proposed use or activity which would conform to the standards contained in (b) and (c) of this section; and

(3) all feasible and prudent steps to maximize conformance with the standards contained in (b) and (c) of this section will be taken.

(e) In applying this section, districts and state agencies may use appropriate expertise, including regional programs referred to in 6 AAC 80.030(b). (Eff. 7/18/78, Register 67)

The habitats identified in Part (a) of this standard that are in the project area include (1) offshore areas, (3) wetlands and tide flats, (6) high energy coasts, and (7) rivers, streams, and lakes. Pioneer believes that Part (b) of the standard is satisfied by the selection of building the offshore drillsite and buried offshore flowline to conduct the proposed drilling and operations. The offshore gravel facility in the shallow water of east Harrison Bay may enhance habitat by creating additional intertidal zone around the fringe of the drillsite. Overall regional habitat will be maintained by minimizing traffic and preventing spills. The onshore transition zone (subsea flowline transition to aboveground flowline) will have a setback from the shoreline to that accounts for erosion rates calculated for this segment of

the coast. Currents and sediment loads in the project area are dominated by the shallow water setting and the proximity to the Colville River Delta. Significant disruption or adverse affects of these parameters are not anticipated to result from the project. The use of existing infrastructure, and design and operational mitigation measures incorporated into the proposed action, lease sale conditions and approval stipulations developed for the project, will make it consistent with this standard. These measures will ensure the project conforms to Parts (b) and (c) of the Habitats standard.

Some project activities could inadvertently lead to nonconformance with these parts of the standard. Therefore, this analysis includes a discussion of the requirements in part (d) of the standard. For example; an accidental oil spill or noise disturbance could result in nonconformance.

Significant Public Need: There is a significant public need for oil and gas development projects including this project. See Energy Standard 6 AAC 80.070 for additional discussion.

Feasible and Prudent Alternatives: There are no feasible and prudent alternatives that meet the overall project objective to maximize recovery of Oooguruk Unit hydrocarbon resources. The high oil and gas potential are limited to certain geologic formations as inferred from seismic surveys, exploration and delineation drilling well results. The drillsite location and well configuration provides the maximum access to the reservoir.

Maximum Conformance: Pioneer believes that the project design and permit and authorization approvals will ensure that all feasible and prudent steps have been taken to maximize conformance with ACMP Habitats standard.

6 AAC 80.140. AIR, LAND, AND WATER QUALITY

Notwithstanding any other provision of this chapter, the statutes pertaining to and the regulations and procedures of the ADEC with respect to the protection of air, land, and water quality, in effect on August 18, 1992, are incorporated into the ACMP and, as administered by that agency, constitute the components of the coastal management program with respect to those purposes. (Eff. 7/18/78, Register 67; am 5/20/93, Register 126)

Crude production processing would not occur on the offshore drill site and proposed emission sources would be minor during operation. The stationary sources may be categorized as small fuel-burning equipment, an incinerator, and some infrequent venting of hydrocarbons as an emergency or during maintenance. There will be some mobile machinery emissions from drilling activity which will continue during facility operation. The only sources included in the onshore activities during facility operation will be emergency power generating engines and an emergency smokeless flare. Although gas is anticipated in the produced fluids stream, it would be sent through the flowline to DS-3H and then to the KRU CPF-3 facility. No production gas flaring would occur at the offshore drill site. The proposed project should be defined as a minor source (less than 100 tons per year of all criteria pollutants) and would not require a Prevention of Significant Deterioration (PSD) permit. During construction of the island, the on-shore equipment and the pipeline between the two, there will be heavy construction equipment, light plants, and

other construction equipment in use with typical diesel tailpipe emissions. Construction, and its associated impacts will be a short-term activity.

Processing facilities are not proposed offshore or onshore as part of the project, thus minimizing the sources of air emissions and increased infrastructure. Because the emissions will be minor, the air impacts from both the island and onshore facilities will also be small and are not expected to impact ambient air quality standards.

ADEC has the opportunity to ensure the project is consistent with the requirements of the Air, Land and Water Quality standard by commenting during the ACMP review process.

Pioneer is developing a comprehensive ODPCP to address spills prevention and response strategies. ODPCP coverage is triggered by the drilling program scheduled to begin in 2007. Implementation of this plan will reduce the risk of damage to the environment from an oil spill during development drilling and production operations and maintenance.

Pioneer will apply to the ADEC, Division of Environmental Health for a Temporary Storage of Drilling Waste Plan approval, as required in 18 AAC 60.430. Pioneer is planning to install a new Class I/II UIC disposal well to support the proposed development project. Solid waste would be incinerated and slag would be hauled for disposal at the NSB ADEC-permitted solid waste disposal facility in Deadhorse. Pioneer is developing a Storm Water Pollution Prevention Plan (SWPPP) and other National Pollutant Discharge Elimination System (NPDES) General Permit discharge Best Management Practices Plans to ensure compliance with federal effluent criteria.

6 AAC 80.150. HISTORIC, PREHISTORIC, AND ARCHAEOLOGICAL RESOURCES

Districts and appropriate state agencies shall identify areas of the coast, which are important to the study, understanding, or illustration of national, state, or local history or prehistory. (Eff. 7/18/78, Register 67)

Pioneer has identified Alaska Heritage Resource Survey (AHRS) and Traditional Land Use Inventory (TLUI) resources in the vicinity of the proposed on shore facilities. Known sites will be avoided during construction and operations. In the event that resources are discovered during project activities, activities that may adversely affect these resources will suspended until guidance and approval from the State's Office of History and Archeology is secured.

Pioneer has contracted a professional archeologist to conduct a summer study (2005) to document known, and survey for new resources at the mine site, drillsite, tie-in pad, and flowline corridor that may be impacted by the proposed action. Historic Preservation Act, Section 106 criteria will be met to secure site clearance from the SHPO and support the USACE Section 404 approval.

NSB Coastal Management Program (NSBCMP) Enforceable Policies

NSBCMP Policy 2.4.3(a)

When extensive adverse impacts to a subsistence resource are likely and cannot be avoided or mitigated, development shall not deplete subsistence resources below the subsistence needs of local residents of the borough.

Intent: The impacts addressed in this policy may result from a single project or from a series of projects. To implement this policy, the NSB would need to establish:

1. *Documentation of subsistence needs.*

2. *A preponderance of the evidence indicating that the project will deplete a subsistence resource below the level necessary to meet those needs.*

It is unlikely that the Oooguruk Project as proposed in the permit application package (July 2005) would cause extensive adverse impacts and deplete a subsistence resource below the level necessary to meet local needs. The discussion under the state ACMP Subsistence Standard (6 AAC80.120) in this document addresses other subsistence-related concerns.

NSBCMP Policy 2.4.3 (b)

Offshore drilling and other development within the area of bowhead whale migration during the migration seasons shall not significantly interfere with subsistence activities nor jeopardize the continued availability of whales for subsistence purposes.

Intent: The area of the bowhead whale migration will be determined annually on the basis of best scientific information available, including that provided by the North Slope Borough and National Marine Fisheries Service monitoring programs. With respect to seismic exploration, the policy will be implemented by prohibiting seismic exploration in the vicinity of migrating whales when the exploration is likely to significantly interfere with subsistence activities or to jeopardize the continued availability of whales for subsistence purposes.

Pioneer is coordinating marine mammal issues with the Nuiqsut Whaling Captains Association, the AEWC, and/or the National Marine Fisheries Service.

NSBCMP Policy 2.4.3 (c)

Development on barrier islands and in the marine and estuarine waters within 3 miles of the passes of Kasegaluk Lagoon intensively used by beluga whales shall not significantly interfere with subsistence use of beluga whales; shall not cause the whales to be displaced from these passes; and shall not jeopardize the continued use of these passes and lagoon system by beluga whales. The passes intensively utilized by beluga whales are Kukpowruk Pass, Akunik Pass, Utukok Pass, Icy Cape Pass, and Alokiakatat Pass (see Map 11 of the NSB Resource Atlas).

This enforceable policy covers regions outside of the project area; therefore it does not apply to the Oooguruk Project.

NSBCMP Policy 2.4.3 (d)

Development shall not preclude reasonable subsistence user access to a subsistence resource.

Intent: The intent of this policy is to ensure that development will not preclude reasonable subsistence user access to a subsistence resource on which they depend. "Reasonable access" is access using means generally available to subsistence users. Reasonable opportunities for access to customary subsistence resources must not be precluded. "Precluding access" addresses not only means of access, but access to areas where resources are present and can be used by subsistence users.

Policy 2.4.3.(e) [sic] should be distinguished from Policy 2.4.5.1(b). Policy 2.4.3.(e) [sic] requires that access to a subsistence resource not be precluded. Policy 2.4.5.1(b) applies when access is diminished or restricted. Policy 2.4.5.1(b) provides that access to subsistence resources be restricted only when there are no feasible and prudent alternatives. This is intended to discourage restrictions on subsistence, but it does not absolutely prohibit such restrictions.

The Oooguruk Project is designed for east Harrison Bay and is sited to avoid or minimize interference with access to subsistence resources.

NSBCMP Policy 2.4.3 (e)

Development which is likely to disturb cultural or historic sites listed on the National Register of Historic Places; sites eligible for inclusion in the National Register; or sites identified as important to the study, understanding, or illustration of national, state, or local history or prehistory shall 1) be required to avoid the sites; or 2) be required to consult with appropriate local, state and federal agencies and survey and excavate the site prior to disturbance. (Descriptions of sites identified to date are contained in Appendix C of the North Slope Borough Coastal Management Program Background Report and referenced on Map 2 of the NSB Resource Atlas).

No effects to cultural or historic sites are expected from the proposed activities. The AHRS and TLUI records identify known sites within the project area, and a site-specific field survey will be conducted (summer 2005) by a qualified archeologist to meet the requirements of the federal and SHPO site clearance regulations.

NSBCMP Policy 2.4.3. (f)

Development shall not significantly interfere with traditional activities at cultural or historic sites identified in the coastal management program.

No effects to cultural or historic sites are expected from the proposed activities.

NSBCMP Policy 2.4.3 (g)

Development shall not cause surface disturbance of newly discovered historic or cultural sites prior to archaeological investigation.

It is unlikely that newly discovered sites would be discovered as a result of offshore development for the Oooguruk Project or construction of the onshore flowline. See Policy 2.4.3 (e) above for additional comments.

NSBCMP Policy 2.4.3. (h)

Development shall comply with state or federal land, air and water quality standards or regulations.

Compliance with state and federal land, air, and water quality standards will be demonstrated by federal, state and NSB approvals of the project. The project has been designed to maintain air, land and water quality. See the discussion that follows the ACMP Air, Land, and Water Quality Coastal Standard 6 AAC 80.140.

Pioneer has developed a comprehensive ODPCP to address possible spills that will be approved by the State of Alaska through the ACMP Consistency Review process. Implementation of this plan will reduce the risk of damage to the environment from an oil spill.

Pioneer will comply with the NPDES General Permit AKG 33-0000 for waste discharges and handling guidelines to ensure water quality standards are met. Pioneer is also developing a SWPPP to ensure compliance with the NPDES discharge criteria.

Pioneer will apply to the ADEC, Division of Environmental Health for a Temporary Storage of Drilling Waste Plan approval. A Class I/II UIC disposal well is planned to manage the majority of project waste.

NSBCMP Policy 2.4.4. Required Features for Applicable Development

NSBCMP Policy 2.4.4.(a)

Vehicles, vessels, and aircraft that are likely to cause significant disturbance must avoid areas where species that are sensitive to noise or movement are concentrated at times when such species are concentrated. Concentrations may be seasonal or year-round and may be due to behavior (e.g., flocks or herds) or limited habitat (e.g., polar bear denning, seal haul-outs). Horizontal and vertical buffers will be required where appropriate. Concern for human safety will be given special consideration when applying this policy.

The Oooguruk Project has been designed to avoid and minimize activities that may disturb species that occupy the area. Project activities including, barge traffic, construction, drilling, and helicopter flights) will be conducted to avoid concentrations of fish, marine mammals and wildlife. Pioneer has developed a Marine Mammal Monitoring Plan and a Bear and Pacific Walrus Avoidance and Human Interaction/Encounter Plan that describe measures that will be taken to minimize interference with these species and maximize human safety.

NSBCMP Policy 2.4.4.(b)

Offshore structures must be able to withstand geophysical hazards and forces, which may occur while at the drill site. Design criteria must be based on actual measurements or conservative estimates of geophysical forces. In addition, structures must have monitoring programs and safety systems capable of securing wells in case unexpected geophysical hazards or forces are encountered.

The Pioneer Oooguruk offshore drillsite and flowline have been specifically designed to operate in the Beaufort Sea under Arctic sea ice conditions. The offshore drillsite would have 13-ft freeboard (above mean lower low water [MLLW]) and slope protection would be

accomplished by gravel-filled bags specially designed for this purpose. The slope protection design is described in greater detail in the Plan of Operations. The required depth of cover over the flowline and trench will be based on the protection from strudel scour, ice gouging, permafrost thaw settlement, upheaval buckling and channel seabed erosion. Flowline burial depth, design criteria, configuration, and routing considerations are being carefully analyzed to validate conservative design assumptions that address these subsea and shoreline transition engineering and environmental concerns.

NSBCMP Policy 2.4.4.(c)

Development resulting in water or airborne emissions must comply with all state and federal regulations.

Pioneer intends to construct and operate the new Oooguruk facilities in compliance with State and federal regulations. A further discussion of air and water quality issues may be found under Policy 2.4.3(h) above and under the ACMP Air, Land and Water Quality standard earlier in this document.

NSBCMP Policy 2.4.4.(d)

Industrial and commercial development must be served by solid waste disposal facilities, which meet state and federal regulations.

Pioneer will meet applicable state and federal regulations as described in Section 12.0, waste Stream in the Plan of Operations. A Class I/II UIC Disposal well facility will have both AOGCC and US Environmental Protection Agency (EPA) approvals and manage the majority of project waste.

NSBCMP Policy 2.4.4.(e)

Development not on a central sewage system is required to impound and process effluent to state and federal quality standards.

Pioneer has applied for authorization to discharge under the Arctic NPDES General Permit AKG-33-0000 for camp waste stream discharges. Section 12.0 of the Plan of Operations outlines the waste management practices that will be employed during the Oooguruk Project.

NSBCMP Policy 2.4.4 (f)

Plans for offshore drilling activities are required to include a relief well drilling plan and an emergency countermeasure plan. The relief well drilling plan must identify suitable alternative drilling rigs and their location; identify alternative relief well drilling sites; identify support equipment and supplies including muds; casing, and gravel supplies which could be used in an emergency; and specify the estimated time required to commence drilling and complete a relief well. The emergency countermeasures plan must identify the steps which will be taken to protect human life and minimize environmental damage in the event of 1) loss of a drilling rig; 2) ice override; or 3) loss or disablement of support craft or other transportation systems.

Pioneer requests an exception to this Policy. Relief well plans are no longer required by the State of Alaska, Department of Environmental Conservation. Measures in the Oil Discharge Prevention Contingency Plan (ODPCP) will address the plan of action to be taken in event of a loss of well control. Current State of Alaska regulations require a Well Control Plan to demonstrate source control capabilities. Approval of the ODPCP will ensure that Pioneer has demonstrated their ability to execute this response.

NSBCMP Policy 2.4.4 (g)

Offshore drilling operations and offshore petroleum storage and transportation facilities are required to have an oil spill control and clean-up plan. The plan must contain a risk analysis indicating where oil spills are likely to flow under various sets of local meteorological or oceanographic conditions. Impact areas must be identified and strategies fully developed to protect environmentally sensitive areas; the spill control and clean-up equipment, which is available to the operator and the response time required to deploy this equipment under the various scenarios, must be contained in the risk analysis.

Intent: Policies 2.4.4.(f) and 2.4.4.(g) are not intended to establish new regulations for offshore facilities. They restate and highlight requirements of existing regulations. Industry will not be required to go to considerable additional effort as a result of these policies.

Pioneer has prepared an ODPCP to address potential oil spills from the proposed project. Response planning will be based upon historical North Slope spill information, facility design, leak detection and other prevention features, and the maximum potential spill volume from a loss of well control, the assumed worse-case discharge scenario. In addition, the ODPCP's response scenarios will contain response strategies and tactics to identify and defend environmentally sensitive areas and priority protection sites. Pioneer will design the proposed project facility and flowline to minimize the possibility of spills, as well as reducing the potential size of a discharge to the environment. A facility and flowline maintenance and inspection program will be put into operation to ensure the highest levels of spill detection and prevention and facility integrity.

In addition, Pioneer will be implementing a program that ensures employees and contractors are properly trained in spill prevention in all aspects of operations. Spill response personnel will participate in specialized response training and in regular response exercises. In addition, employees and contractors will be required to attend North Slope environmental training and adhere to the standards and guidelines of the *North Slope Environmental Field Handbook*. The plan addresses the issues identified in this enforceable policy.

NSBCMP Policy 2.4.4.(h)

Offshore oil transport systems (e.g., pipelines) must be specially designed to withstand geophysical hazards, specifically sea ice.

Pioneer has performed a preliminary assessment of the various project component alternatives for transporting production fluids from a Harrison Bay offshore drillsite to shore. From this evaluation, Pioneer has concluded that a trench-buried flowline for the offshore segment is the most practical option for the transportation of production fluids. A

winter season installation would be favored to take advantage of the sea ice as a stable work surface and reduce potential environmental impacts. The required depth of cover over the flowline and trench will be based on the protection from strudel scour, ice gouging, permafrost thaw settlement, upheaval buckling and channel seabed erosion. As a result of relatively shallow water depths in the proposed flowline route, the winter sea ice would be bottomfast over the trench. However, the trench may fill with water due to seepage beneath the ice pack. Flowline burial depth, design criteria, configuration, and routing will be carefully analyzed to best address these subsea and shoreline transition environmental concerns.

NSBCMP Policy 2.4.4.(i)

All causeways are required to be sited and designed to allow free passage of fish, marine mammals, and molting birds with due consideration for migration patterns; to prevent changes in water circulation patterns that would have significant adverse impacts on fish and wildlife; and to ensure adequate sediment transport.

The Oooguruk Project does not involve construction of causeways, so this enforceable policy does not apply.

NSBCMP Policy 2.4.4.(j)

Residential development associated with industrial and resource extraction development must be removed and the area rehabilitated to standards consistent with the coastal management program when the industrial or extractive use is completed, unless removal is more environmentally harmful than nonremoval.

The offshore drillsite would be abandoned, subject to lease obligations, after the economic life of the field has passed. Removal of facilities would be in accordance with state and federal agency approved abandonment plans. All wells would be abandoned in accordance with North Slope operations practices and in compliance with AOGCC regulations and policies.

NSBCMP Policy 2.4.4.(k)

Impermeable lining and diking is required for fuel storage facilities with a capacity greater than 660 gallons.

Storage tanks and pumps would be located on the offshore drillsite and the onshore pad adjacent to DS-3H. A small dedicated line in the subsea flowline bundle would transport Arctic heating fuel and mineral base oil from the onshore pad to the offshore facilities. Secondary containment of all liquid fuel will be a minimum of 110 percent of the largest tank or group of tanks in a manifold. Timbers pinned together will form the perimeter of the containment area that will be lined with an impermeable material that meets accepted industry standards. There will be a total of 22 aboveground tanks with two tanks dedicated for arctic heating fuel and two for mineral base oil. All offshore tanks will be 600 barrels in capacity and be located to insure protection from the flare system.

NSBCMP Policy 2.4.5. Best Effort Policies

All development must comply with each of the policies set out in sections 2.4.5.1 and 2.4.5.2 unless 1) the following criteria have been established; or 2) the policy is not applicable to the development.

(1) There is a significant public need for the proposed use and activity; and

(2) The development has rigorously explored and objectively evaluated all feasible and prudent alternatives to the proposed use or activity and cannot comply with the policy. When alternatives are eliminated from consideration, the reasons for their elimination shall be briefly documented by the developer.

NSBCMP Policy 2.4.5.1.

Development of the following categories or types will be allowed only if the development has met the criteria under 2.4.5 above, and the developer has taken all feasible and prudent steps to avoid the adverse impacts the policy was intended to prevent.

(a) Development that will likely result in significantly decreased productivity of subsistence resources of their ecosystems.

The Oooguruk Project is not expected to significantly decrease productivity of subsistence resources as discussed under the state ACMP Subsistence standard, and Enforceable Policies 2.4.3 (a,b,d), presented earlier in this document

(b) Development which restricts subsistence user access to a subsistence resource.

The Oooguruk Project should not restrict subsistence user access. The discussion under NSB Enforceable Policy 2.4.3(d) provides more information on the effect of the project on subsistence access.

(c) Development activities from June 15 to July 31 that will likely displace beluga whales from Kasegaluk Lagoon. These development activities may include, but are not limited to, extensive barge or boat traffic; low altitude or frequent plane and helicopter traffic; and other activities resulting in excessive noise or other forms of disturbance.

The Oooguruk Project area is not located near Kasegaluk Lagoon, so this policy does not apply.

(d) Development on or near a shoreline that has the potential of adversely impacting water quality (e.g., landfills, or hazardous material storage areas, dumps, etc.). (Near, as used in the phrase "near the shoreline," is defined as that area within a 1,500 foot setback from the mean high water mark along the coast, lakeshore, or river).

The Oooguruk Project is not expected to affect water quality. The discussion under the state ACMP Air, Land and Water Quality standard and Enforceable Policy 2.4.3(h) earlier in this document provides additional information about this topic.

Compliance with state and federal land, air, and water quality standards will be demonstrated by federal, state and NSB approvals of the project. The project has been designed to ensure air, land and water quality is maintained. See the discussion that follows the ACMP Air, Land, and Water Quality Coastal Standard 6 AAC 80.140.

(e) Public highway development, except for village roads and streets and highways indicated in the state and/or local capital improvements program.

No public highways will be developed in conjunction with the Oooguruk Project so this policy does not apply.

(f) Transportation development, including pipelines, which significantly obstructs wildlife migration.

No transportation development (pipelines or flowlines) will be constructed in a manner which would obstruct wildlife migration as part of the Oooguruk Project. Offshore flowlines are buried in the seabed and onshore flowlines will be aboveground on VSMs at a nominal height of 7 ft above the tundra surface.

(g) Development to accommodate large scale movement of crude oil or natural gas via marine tankers.

Intent: The intent of this policy is to limit development to accommodate large scale movement of crude oil or natural gas via marine tankers to instances where no feasible and prudent alternatives exist; recognizing that development of marine tanker facilities is a use of state concern.

The Oooguruk Project does not include the large-scale movement of crude oil, so this policy does not apply.

(h) Duplicative transportation corridors from resource extraction sites.

This concern is addressed by the construction of buried flowlines which will carry fluids to and from the drillsite to minimize construction of roads, reduce traffic flow to the site, and also reduce the possibility of leaks and spills.

(i) Mining of beaches, barrier islands or offshore shoals. In those circumstances where no feasible and prudent alternatives exist, substantial alteration of shoreline dynamics is prohibited.

Material for constructing the drillsite would be obtained from a coordinated expansion of Mine Site E.

(j) Placement of structures in floodplains subject to a 50-year recurrence level and in geologic hazard areas as identified on the following coastal management maps in the NSB Resource Atlas: Map 6 - Areas of moderate and severe ridging and historic ice override. Map 7 and 22 - Areas of moderate and severe ice ridging.

The Oooguruk site is located within Map 22, area of severe ice ridging. The drillsite is designed to exceed anticipated ice conditions. Additional information is included under the 6 AAC 80.050 Geophysical Hazard Areas Coastal Standard discussion.

NSBCMP Policy 2.4.5.2

The following are required of applicable development except where the development has met the criteria of 2.4.5 above, and the developer has taken all feasible and prudent steps to maximize conformance with the policy.

NSBCMP Policy 2.4.5.2(a)

Mining (including sand and gravel extraction) in the coastal area shall be evaluated with respect to type of extraction operation, location, possible mitigation measures, and season so as to lessen, to the maximum extent practicable, environmental degradation of coastal lands and waters (e.g., siltation of anadromous rivers and streams).

No mining in the coastal area is associated with the Oooguruk Project, so this policy does not apply.

NSBCMP Policy 2.4.5.2(b)

Development is required to be located, designed, and maintained in a manner that prevents significant adverse impacts on fish and wildlife and their habitat, including water circulation and drainage patterns and coastal processes.

The Oooguruk Project is not expected to result in significant impacts to fish, bowhead whales, seals, polar bears, other wildlife, or their habitat. This issue is discussed in Habitats Standard 6 AAC 80.130, and NSBCMP enforceable policies 2.4.3(b), 2.5.2(g), and 2.5.2(e), and the application package.

NSBCMP Policy 2.4.5.2(c)

Resource extraction support facilities, including administration offices, operations, residences, and other uses not absolutely required in the field, must be located in a designated service base which is sited, designed, constructed, and maintained to be as compact as possible and to share facilities to the maximum extent possible.

The Oooguruk Project will be supported from the Pioneer's Anchorage Office, and the main headquarters in Dallas, Texas. Logistics and project support are anticipated from Deadhorse, Oliktok Point, and KRU. Production operations support at the offshore drillsite would consist of living quarters for approximately 15 persons, firefighting equipment, pre-staged oil spill response gear, and emergency evacuation equipment. The camp would not be continuously manned, but provide housing as needed for offshore facility maintenance and workover supervision.

NSBCMP Policy 2.4.5.2(d)

Gravel extraction activities within floodplains shall maintain buffers between active channels and the work area, avoid instream work, permanent channel shifts and ponding of water, clearing of riparian vegetation, and disturbance to natural banks.

The Oooguruk Project gravel will be obtained from MPU Mine Site E.

NSBCMP Policy 2.4.5.2(e)

New subdivisions or other residential development must provide state-approved water and sewer service to prevent damage to fish and wildlife and their habitat.

No residential development is associated with the Oooguruk Project, so this policy does not apply.

NSBCMP Policy 2.4.5.2(f)

Transportation facilities and utilities must be consolidated to the maximum extent possible.

This is a development project with no new transportation or utility facilities associated with the proposal. No new all-weather roads are required for this project. Existing road or ice roads would be used. Electric power would be provided by existing permitted KRU facilities. Power would be delivered by power cable mounted on VSMs and then via buried subsea cable. Additional discussions are presented in the Habitats Standard 6 AAC 80.130, and NSBCMP enforceable policies 2.4.5.1(h), 2.4.5.2(c), and 2.4.5.2(d).

NSBCMP Policy 2.4.5.2(g)

Development within the ACMP -defined coastal habitats must be conducted in accordance with ACMP Standard 6 AAC 80.130(b), (c), and (d), and applicable policies of the North Slope Borough Coastal Management Program. These habitats include the following:

1. *offshore areas;*
2. *estuaries;*
3. *wetlands and tideflats;*
4. *rocky Islands and seacliffs;*
5. *barrier Islands and lagoons;*
6. *exposed high-energy coasts;*
7. *rivers, streams and lakes; and*
8. *important upland habitat.*

The Habitats standard, 6 AAC 80.130, discussion addresses this policy. Other enforceable policies related to habitat include NSBCMP 2.4.5.2(b), 2.4.6(c) and 2.4.6(e).

NSBCMP Policy 2.4.5.2(h)

Development is required to be located, designed, and maintained in a manner that does not interfere with the use of a site that is important for significant cultural uses or essential for transportation to subsistence use areas.

Pioneer designed the Oooguruk Project and is proposing a winter construction schedule that avoids and minimizes interference with the use of sites important for significant cultural uses or essential transportation to subsistence use areas.

NSBCMP Policy 2.4.6 Minimization of Negative Impacts.

Applicable development is required to minimize its impact as follows:

NSBCMP Policy 2.4.6(a)

Development associated with purely recreational uses of land and wildlife habitat (i.e., commercial hunting and fishing camps and recreational second-home subdivisions) shall minimize adverse impacts on subsistence activities.

The Oooguruk Project is not associated with purely recreational uses. There is one commercial fishing camp, Helmericks' Colville Village on Anachlik Island, within the Colville River Delta.

NSBCMP Policy 2.4.6(b)

Siting, design, construction, and maintenance of transportation and utility facilities (including the ice roads) are required to minimize alteration of shorelines, water courses, wetlands, tidal marshes, and significant disturbance to important habitat and to avoid critical fish migration periods.

The project has been designed to avoid, minimize and mitigate disturbance to the natural environment. Details of the proposed action are presented in the permit application package.

NSBCMP Policy 2.4.6(c)

Development is required to maintain the natural permafrost insulation quality of existing soils and vegetation.

The Oooguruk Project has both an offshore and onshore component. The offshore offshore drillsite construction is comprised of gravel fill at the site. The onshore flowline approach (transition zone) and onshore flowline (supported on VSMs) is designed to protect the natural permafrost conditions. Construction and installation of the onshore flowline segment is addressed in the Plan of Operations, Section 6.0 (as well as in supporting engineering design documents). The onshore pad will be constructed of gravel and thaw settlement will be accounted for in the design.

NSBCMP Policy 2.4.6(d)

Airports and helicopter pads are required to be sited, designed, constructed, and operated in a manner that minimizes their impact upon wildlife.

The Oooguruk offshore drillsite will have a helipad for personnel and equipment transport to and from the drillsite during the unstable ice and open water periods of spring, summer, and fall. To accommodate the safe landing and take-off operations of helicopters at the drillsite, the helipad would be built to American Petroleum Institute guidelines. Fueling facilities would not be required at the offshore drillsite considering the close proximity of helicopter bases at Deadhorse and Kuparuk.

NSBCMP Policy 2.4.6(e)

A means of providing for unimpeded wildlife crossing shall be included in the design and construction of structures such as roads and pipelines that are located in areas used by wildlife. Pipeline design shall be based on the best available information and include adequate pipeline elevation, ramping, or burial to minimize disruptions of migratory patterns and other major movements of wildlife. Aboveground pipelines shall be elevated a minimum of 5 feet from the ground to the bottom of the pipe, except at those points where the pipeline intersects a road, pad, or caribou ramp, or is constructed within 100 feet of an existing pipeline that is elevated less than 5 feet. Temporary pipelines (not to exceed 6 months) are exempt from this policy.

Intent: In areas used by wildlife, this policy establishes a five-foot minimum pipeline elevation where elevation is the preferred means of providing for unimpeded wildlife crossings. Best available information will be evaluated during project review to determine if pipeline burial, ramping, elevation, or a combination thereof, will be employed.

The VSM-mounted flowline portion of the Oooguruk Project, 2.4 miles long, will be not impede wildlife crossings on the route to DS-3H. The flowline would be a nominal 7 feet above the tundra surface.

NSBCMP Policy 2.4.6(f)

Development in floodplains, shoreline areas, and offshore areas is required to be sited, designed, and constructed to minimize loss of life or property due to riverine flooding, icings, streambank erosion, oceanic storms, sea waves, ice gouging and override, and shore erosion.

The Oooguruk offshore drillsite and trench-buried flowline have been designed to withstand geophysical forces. The Geophysical Hazard Areas Standard (6 AAC 80.050) and NSBCMP 2.4.4.(b) discussions provide additional details.

NSBCMP Policy 2.4.6(g)

Seismic exploration must be conducted in a manner that minimizes its impact on fish and wildlife.

No seismic exploration will be conducted during the Oooguruk Project.